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# RURAL LAND VALUES AND TENURE ARRANGEMENTS IN LOUISIANA 

by

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## FOREWORD

Rural land comprises 77 percent of Louisiana's total land acreage, with a wide diversity of physical characteristics and use. Therefore, reliable rural real estate market information is expected to be of value to landowners, investors, borrowers, lenders, realtors, appraisers, public taxing authorities, and policy makers. This report presents the results from the first annual Louisiana Rural Land Market Survey. The survey was designed to collect detailed information from rural real estate professionals regarding market conditions in their areas. Results of this study suggest that land values vary by area of the state and the primary commodity grown on the tract. Substantial variation in land value within areas and by parish suggests a number of factors affect rural land values and markets. Further research will be designed to measure the effects of these various factors on rural real estate markets. Given the diversity of the Louisiana rural land market and the uniqueness of submarket areas, information provided herein should be used in a general context. Because location, size of tract, capital improvements, and physical characteristics are important determinants of value, estimates presented in this report should not be used as a guide to value any specific parcel of real estate.

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# RURAL LAND VALUES AND TENURE ARRANGEMENTS IN LOUISIANA 

Gary A. Kennedy, Steven A. Henning, and Lonnie R. Vandeveer*

## INTRODUCTION

Changing economic conditions within the agricultural production sector, along with an increasing demand for non-agricultural land, suggest a need for land market research. Substantial changes have occurred in Louisiana land markets over the past 25 years. Between 1970 and 1982, the average per acre value of land and buildings in Louisiana increased from $\$ 321$ to $\$ 1,454$, which represents nearly a 453 percent increase (Jones et al., 1993). These changes were largely attributed to generally favorable commodity prices, inflationary effects from the general economy, and the demand for agricultural land from farm expansion and non-agricultural uses.

Downward trends in agricultural land values occurred after the early 1980's in Louisiana. USDA estimates indicate land values for Louisiana declined from $\$ 1,454$ per acre in 1982 to $\$ 921$ per acre in 1987 or a 37 percent decline over the five year period. These trends were caused by a number of economic factors, including relatively low commodity prices, depressed agricultural exports, increased cost of production, and relatively high interest rates. From a financial perspective, this change had a significant affect on the balance sheet of the Louisiana agricultural production sector. Much of the decline in sector equity from \$12,703 million in 1981 to $\$ 7,861$ million in 1987 was attributed to declining real estate values.

Substantial changes in rural real estate market activity, along with the fact that farm real estate accounts for approximately 75 percent of all agricultural assets, suggest a need for collecting land market information in Louisiana. Landowners, investors, borrowers, lenders, realtors, and rural appraisers frequently need reliable land value information. In addition, because agricultural real estate comprises 77 percent of Louisiana's total land acreage, reliable rural real estate market information is important for public taxing authorities and policy makers.

This research report is a first in a series of reports from an on-going research project in rural land values. An initial step of this research is aimed at developing a land value database for Louisiana. This information is expected to be useful to farm credit agencies, appraisers, realtors, extension personnel, policy makers, farmers, and others conducting agricultural research programs. This information is also expected to be vital in managing Louisiana's land resource, which is at the heart of the state's agricultural production sector.

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## OBJECTIVES

The general objective of this study is to present land market information for Louisiana covering the period January 1, 1993 to June 30, 1994. This information was collected by the Department of Agricultural Economics and Agribusiness, Louisiana State University Agricultural Center, in August 1994 using the Louisiana Rural Land Market Survey. Specific objectives of the study are to present:

1. a summary of reported rural land values by major commodities for the state and regional agricultural production areas;
2. a summary of reported rural land values by parish;
3. value estimates of different types of agricultural land in Louisiana based on subjective estimates from respondents; and
4. estimates of rental arrangements for selected crops based on subjective estimates from respondents.

## PREVIOUS RESEARCH

Land has been and continues to be a major capital asset in the Louisiana agricultural production sector. In addition to productive capacity, other factors influencing rural land values are a place to live, pride in ownership, an opportunity to earn returns on investment, and a hedge against inflation (Suter, 1980). These factors, coupled with many other factors that affect land value, have stimulated much interest in rural land values. Previous land market research has generally included studies based on macro data (secondary data) and studies based on micro or land sales data (primary data). Macro studies using secondary data have been used to explain how economic variables impact rural land values, whereas other studies have used detailed land tract sales data (micro data) to analyze rural land values in localized markets. The current research is concerned with studies which have developed procedures for collecting detailed land tract sales data.

Two studies in Louisiana have included a cross-sectional analysis of individual tract sales. In 1974, Ramsey and Corty collected 2,372 bonafide agricultural sales from transfer records in clerk of court and tax assessor offices in every parish except Orleans. Analysis of sales data indicated an inverse relationship between price per acre and tract size in most farming areas. Similarly, results of the study indicated an inverse relationship between price per acre and proximity to a major metropolitan area. In a less intensive study, Vandeveer and Henning analyzed 32 tracts of land sold at public auction by the Federal Land Bank of Jackson in 1988. Results of the study indicated that size of tract, type of road adjacent to the tract, proportion of cropland, and presence of rice base acreage explained approximately 69 percent of the variation in per acre values in the sample of south-central Louisiana land sales.

Land value research conducted elsewhere has found a wide variety of factors to be operative in state and regional markets. Vollink (1978) partitioned North Carolina into four land market regions to analyze 1975-76 sales data from the Federal Land Bank of Columbia. Fluecured tobacco allotments had an expected strong positive influence on value in selected areas of the state. In addition, land financed by the Federal Land Bank had significantly lower prices than tracts financed by other lenders. Clifton and Spurlock (1983) analyzed land markets in Florida, Georgia, South Carolina, and North Carolina using Federal Land Bank data. Their results support the hypothesis that a number of independently functioning land markets existed in the these states. Other results suggest that the amount of timberland, reasons for purchase, and urban influences are statistically significant in explaining variation in land values.

Several other studies have reported the effects that different farm enterprises have on land values. Spurlock et al. (1988) analyzed the agricultural real estate market in Mississippi for the period January 1976 through May 1987 using Federal Land Bank sale and appraisal data. After dividing the state into ten production regions, they found cattle enterprises had a significantly greater impact on value than soybeans in four areas, with insignificant differences in the other areas. In addition, tracts with soybeans listed as the primary product were valued lower than tracts with cotton and rice listed as primary products. In a study of Oklahoma land values, Kletke (1993) outlined procedures for using the pastureland to cropland value ratio for analyzing sales. Conclusions were that relative prices of pastureland and cropland fluctuate and, to some extent, the ratio of feeder cattle prices to wheat prices can be used to anticipate the direction of future changes the value of pastureland to value of cropland.

Other studies have reported on trends in agricultural land market activity and identified the primary participants in the market. Vanvig and Hewlett (1990) reported that land values in Wyoming bottomed out in 1988 and early 1989 and began to move upward in the Spring of 1990. They also reported that expansion buyers continued to be the dominant force in the Wyoming land market. A statewide survey of real estate in Minnesota (Brekke, Tao, and Raup, 1993) reported that land values increased 7 percent between July 1991 and July 1992. In addition, buyers who purchased land to increase the size of existing land holdings continued to dominate the Minnesota land market in 1992. In Nebraska, land values were reported to have increased just over four percent for the year ending February 1, 1993; however, not all areas of the state experienced land value increases (Johnson, 1993). Weather was a major contributing factor to geographic patterns of land value changes.

Previous research has also outlined the need and the potential benefits of developing detailed land value data bases. Adrain and Hardy (1989) suggest that land markets are diverse, dynamic, and complex and that efforts should be devoted to broadening data bases and making analyses at the most disaggregated level possible. The North Central Regional Committee on Land Values (1985) further indicates that, while the interest is great and the perceived benefits of ongoing land market research are substantial, the cost of the research effort is generally quite modest. They further suggest that ongoing land market studies produce much needed information with a minimal resource commitment from the research community.

Studies of rural real estate in Louisiana have been initiated at irregular intervals and have varied in scope and intensity. This study is the first in a series of reports aimed at documenting land market activity in Louisiana. Land value estimates presented here will be used with future values to establish trends in Louisiana real estate markets. This study is expected to be of interest and used by rural appraisers, agricultural lenders, real estate brokers, extension personnel, public officials and others with a need for such information.

## SURVEY PROCEDURES

Data for this study were collected using mail survey techniques. Specifically, this included the development of a Louisiana Rural Land Market Survey and a statewide listing of knowledgeable individuals of rural land markets. The listing included 699 individuals who were state certified appraisers, officers in commercial banks, Farmers Home Administration personnel, Federal Land Bank personnel, Production Credit Association personnel, members of the Louisiana Chapter of the American Society of Farm Managers and Rural Appraisers and members of Louisiana Realtors Land Institute.

The Louisiana Rural Land Market Survey was structured to collect two general types of data. The first section of the survey was designed to collect detailed information on actual sales of rural real estate that occurred between January 1, 1993 and June 30, 1994. Respondents were asked to provide as much information as possible on actual sales of rural real estate during the survey period. Respondents were also asked to include only those tracts of ten acres or more in size, tracts outside the city limits of major metropolitan areas, and not to include sales involving close relatives.

Designed to obtain subjective information, the second and third sections of the survey asked for estimates based on the respondents knowledge of the local land market. The second section of the questionnaire was structured to obtain typical rental arrangements for a range of crops grown in the respondent's area. The third section of the survey was developed to obtain subjective estimates of different types of land throughout the state and respondent's expectation of land market activity over the next year.

Established procedures outlined by Dillman (1978) were used to conduct the mail survey. This included mailing the survey in early August 1994, sending a post card reminder 10 days after the initial mailing, and sending a duplicate questionnaire at the end of August. The survey questionnaire was pretested among the different survey groups prior to the first mailing. Response rates of the groups surveyed are summarized in Table 1. As indicated in Table 1, 334 of 699 responded to the survey, resulting in a response rate of 48 percent. Results in Table 1 generally indicate good responses among the different groups and that respondents generally provided multiple sales for the study.

Table 1. Response Frequency by Survey Group, Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994.

| Survey Group | Number <br> Surveyed | Number of Respondents | Number of Sales Reported |
| :---: | :---: | :---: | :---: |
| Commercial Banks | 130 | 58 | 25 |
| Farmers Home Administration | 40 | 35 | 123 |
| Production Credit Associations | 5 | 5 | 58 |
| General Appraisers | 195 | 92 | 384 |
| Federal Land Banks | 9 | 6 | 125 |
| Residential Appraisers | 279 | 118 | 99 |
| Rural Appraisers | 22 | 10 | 23 |
| Rural Realtors | 19 | 10 | 111 |
| Total | 699 | 334 | 948 |

## STATEWIDE ANALYSIS OF REAL ESTATE MARKET ACTIVITY

Summary statistics for the Louisiana Rural Land Market Survey are presented and discussed in this section. Respondents reported 948 rural real estate sales for the state. Based on township, range, and section information collected for each sale, the department's Agricultural Economics Geographic Information System (AEGIS) laboratory was used to spatially summarize the location of each sale. Results of the spatial analysis of all sales collected in the survey are shown in Figure 1. With the exception of the New Orleans metropolitan area, the results suggest that reported rural land sales are widely dispersed throughout the state.

Mean and median rural real estate values and other selected information for the state and by primary enterprise are presented in Table 2 . Of 948 reported rural real estate sales for the state, 122 sales listed cotton as the primary enterprise. Statewide results (Table 2) are presented for cotton, soybeans, sugar cane, rice, pastureland, pine timberland, and hardwood timberland. Results are not reported for enterprises such as wheat or corn because there were a limited number of sales reporting these enterprises as the primary commodity for the tract.

Estimates presented in Table 2 indicate that the median value of real estate during the survey period was $\$ 731$ per acre while the mean value was $\$ 1,037$. These estimates along with other statistics reported in Table 2 indicate substantial variability in per acre real estate values. On a statewide basis, per acre values range from $\$ 125$ to $\$ 12,500$, with a standard deviation estimated at

Table 2. Mean and Median Land Values and Other Selected Characteristics, State Summary, 1994 Louisiana Rural Land Market

| Selected Land Tract <br> Sales Reported | Minimum | Maximum | Median | Mean | Standard <br> Deviation |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Characteristics |  |  |  |  |  |

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Table 2. Mean and Median Land Values and Other Selected Characteristics, State Summary, Continued.


1,001.18. Moreover, the sample estimates indicate that the mean size of tract was 176 acres and the mean amount of cropland on tracts was 29 percent.

Mean per acre values for primary enterprises of cropland were estimated to range from $\$ 655$ for soybeans to $\$ 1,467$ for sugar cane. Similarly, mean per acre values for other enterprises ranged from $\$ 514$ for hardwood timberland to $\$ 920$ for pine timberland. The mean government program base acreage was 123 acres for cotton as compared to 72 acres for rice.

Mean per acre values for primary enterprises also indicate substantial variability. For example, the standard deviation for cotton in Table 2 indicates that approximately 68 percent of the reported land sales where cotton is the primary commodity are expected to fall in the price interval of $\$ 434$ to $\$ 1,012$ (the mean plus and minus one standard deviation). Much of the variability is due to locational, productivity, size, and other differences that exist among reported real estate sales.

The rural land market survey also asked respondents to identify the principle reason for purchase for each sale tract. Results of this question are illustrated in Figure 2. For the 948 rural land market sales, respondents were able to list the principle reason for purchasing real estate for 607 tracts. Results indicate that expansion of land holdings ( 38.4 percent), investment (29 percent), establishing a rural residence ( 17.3 percent), and establishing a farm (11.2 percent) were the most frequent reasons for purchasing real estate in the survey sample.


Figure 2. Reason for Real Estate Purchase, 1994 Louisiana Rural Land Market Survey, January 1, 1993 - June 30, 1994 Sale Period.

Respondents were asked to identify other significant influences on land value for each sale tract. The frequency distribution of responses to this question is illustrated in Figure 3. Respondents provided information for 611 sale tracts of rural real estate. Results in Figure 3 indicate no other significant influences on land value for the majority of sale tracts ( 65 percent). However, the results indicate the presence of sizeable influences from factors such as residences, flooding, recreation, urban development, and highways.


Figure 3. Real Estate Value Influences, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

## AREA ANALYSIS

A primary objective of this report was to provide a summary of land values by agricultural production areas of the state, relying on rural real estate sales data reported in the Louisiana Rural Land Market Survey. Respondents were asked to report actual sales of rural real estate for the time period January 1, 1993 to June 30, 1994. As part of the survey, the respondent was asked to indicate the primary agricultural enterprise of each tract reported. A total of 536 of the 948 sales reported indicated one of eight primary agricultural enterprises (corn, cotton, soybeans, sugar cane, rice, pastureland, pine timberland, or hardwood timberland).

Following the format used by Ramsey and Corty, the state was subdivided into the nine agricultural production areas illustrated in Figure 4. These areas represent relatively homogeneous

soil types within the state. Tables 3-10 summarize the survey data for areas 1-8. Area 9, which had limited rural land transactions, is not reported. Each table summarizes the data for the entire production area and then reports a summary of the data by primary enterprises in the area. Land values are not reported for a primary enterprise when fewer than five sales were reported for the area.

## Western Area

The Western Area includes four parishes (Beauregard, Desoto, Sabine, and Vernon) bordering the western boundary of Louisiana along the Toledo Bend Reservoir. Table 3 summarizes selected characteristics of reported sales in the Western Area. This area had the largest number of sales reported (216), representing 23 percent of the sales reported in the state. Per acre values ranged from $\$ 140$ to $\$ 12,500$, with a median of $\$ 717$ and a mean of $\$ 975$. Tract size varied from a minimum of 10 acres to a maximum of 5,052 acres. Tracts in the Western Area were typically small in size. The median tract size was 39 acres, with a mean tract size of 105 acres. The enterprise mix was varied. Unlike other areas of the study, no tracts in the Western Area reported 100 percent cropland. Cropland acreage on any single tract in the Western Area ranged from zero to 90 percent of total acres.

Compared to other production areas, a much smaller number of reported sales indicated the primary enterprise of the tract in the Western Area. Pastureland, pine timberland, and hardwood timberland were the primary enterprises reported in the area. Tracts with pine timberland as the primary enterprise had the highest median $(\$ 849)$ and mean $(\$ 1,699)$ per acre values. The reported standard deviation for price per acre ( $\$ 3,275.98$ ) was extremely large, reflecting the wide range of reported values relative to the number of observations. This wide range of values resulted from the variety of pine timberland tracts reported, ranging from cutover and pre-merchantable tracts to pulpwood and sawtimber tracts. Pine timberland reported the single highest price per acre $(\$ 12,500)$ in the Western Area. Pine timberland also had the largest median (56) and mean (287) acre size.

## Red River Area

The Red River Area includes five parishes (Bossier, Caddo, Natchitoches, Rapides, and Red River) in northwest Louisiana that border the northern most portions of the Red River. The survey reported 132 sales in the area (Table 4), representing 14 percent of the sales reported in the state. Per acre values ranged from $\$ 125$ to $\$ 9,351$, with a median of $\$ 550$ and a mean of $\$ 855$. Tract size varied from a minimum of 10 acres to a maximum of 1,736 acres. The median tract size was 80 acres, with a mean tract size of 188 acres.

Eighty percent of the sales reported in the Red River Area indicated one of five primary enterprises (cotton, soybeans, pastureland, pine timberland, or hardwood timberland). Twentythree tracts, with pastureland as the primary enterprise, had the highest median (\$723) and mean $(\$ 1,052)$ per acre values. Tracts with pastureland as the primary enterprise ranged in value from $\$ 405$ to $\$ 2,619$ per acre. Interpreting the standard deviation under the assumptions of the central limit
Table 3. Mean and Median Land Values and Other Selected Characteristics, Western Area, 1994 Louisiana Rural Land Market

Table 4. Mean and Median Land Values and Other Selected Characteristics, Red River Area, 1994 Louisiana Rural

Table 4. Mean and Median Land Values and Other Selected Characteristics, Red River Area, Continued.

| Selected Land Tract | Number of <br> Sales Reported | Minimum | Maximum | Median | Mean | Standard <br> Deviation |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Characterisics |  |  |  |  |  |  |

theorem, 68 percent of the reported sales are expected to fall within one standard deviation ( $\$ 708.81$ ) of the mean. In this instance, the interval is $\$ 343$ to $\$ 1,761$ per acre.

Pine timberland was the most often reported primary enterprise ( 39 sales) in the Red River Area. Tracts identified as primarily pine timberland or hardwood timberland enterprises reported medians of 100 percent timberland.

Tracts with cotton as the primary enterprise reported the largest median (417 acres) and mean (474 acres) size. Government program base acreage in cotton ranged from zero to 580 acres among the 20 sales reported. Median ( 108 acres) and mean ( 172 acres) base acreage in cotton was well below the reported median and mean for all cotton tracts in the area.

## North Central Area

The North Central Area includes nine parishes (Bienville, Claiborne, Grant, Jackson, Lasalle, Lincoln, Union, Webster, and Winn). Table 5 summarizes selected characteristics of 101 reported sales in the North Central Area. Per acre values ranged from $\$ 150$ to $\$ 2,152$, with a median of $\$ 600$ and a mean of $\$ 674$. Tract size ranged from 10 acres to 370 acres. Tracts in the North Central Area were typically small in size. The median tract size was 70 acres, with a mean tract size of 89 acres.

Seventy-five percent of the tracts in the North Central Area indicated one of three primary enterprises (cotton, pastureland, or pine timberland). Forty-three tracts reported pine timberland as the primary enterprise. The median per acre price of pine timberland was $\$ 550$, with a mean of $\$ 679$. The standard deviation of pine timberland was $\$ 392.82$, meaning that approximately 68 percent of reported sales are expected to fall within the range of $\$ 286$ to $\$ 1,072$ per acre. Pine timberland tracts were relatively small in size, reporting a median of 48 acres and a mean of 68 acres.

Only seven tracts reported cotton as the primary enterprise. However, these tracts reported the highest median (\$784) and mean (\$804) price per acre in the North Central Area. Median and mean acres were identical ( 97 acres). Government program base acreage in cotton was very small, ranging from zero to 64 acres. The median base acreage was zero, with a reported mean of 18 acres.

## Northeast Area

The Northeast Area includes those parishes associated with the Macon Ridge, Mississippi Delta, and Ouachita River Delta areas. Eleven parishes (Caldwell, Catahoula, Concordia, East Carroll, Franklin, Madison, Morehouse, Ouachita, Richland, Tensas, and West Carroll) are located in the Northeast Area. The survey reported 160 sales in the area (Table 6), representing 17 percent of the survey responses. Per acre values ranged from $\$ 186$ to $\$ 1,400$, with a median of $\$ 593$ and a mean of $\$ 634$. Tract size varied from a minimum of 17 acres to a maximum of 5,889 acres. Tracts in the Northeast Area were typically larger than other areas of the study. The median tract size was 150 acres, with a mean tract size of 309 acres. Based on the median and mean of percent of tract in cropland, pastureland, and timberland, results indicate that tracts were mostly cropland.
Table 5. Mean and Median Land Values and Other Selected Characteristics, North Central Area, 1994 Louisiana Rural Land Market

| Selected Land Tract <br> Chamber of <br> Sales Reported | Minimum | Maximum | Median | Mean | Standard <br> Deviation |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| North Central Area | 101 |  |  |  |  |  |
| Price Per Acre (dollars) |  | 150 | 2,152 | 600 | 674 | 363.95 |
| Size (acres) |  | 10 | 370 | 70 | 89 | 77.34 |
| Percent Cropland |  | 0 | 100 | 0 | 7 | 24.82 |
| Percent Pasture |  | 0 | 100 | 0 | 26 | 40.46 |
| Percent Timber |  | 0 | 100 | 56 | 54 | 46.64 |
| Sales with Cotton as Primary Enterprise | 7 |  |  |  |  |  |
| Price Per Acre (dollars) |  | 313 | 1,488 | 784 | 804 | 410.87 |
| Size (acres) |  | 51 | 179 | 97 | 97 | 40.54 |
| Percent Cropland | 91 | 100 | 100 | 97 | 4.26 |  |
| Government Program Base Acres | 0 | 64 | 0 | 18 | 30.27 |  |
| Sales with Pasture as Primary Enterprise | 26 |  |  |  |  |  |
| Price Per Acre (dollars) |  | 424 | 1,042 | 618 | 699 | 198.35 |
| Size (acres) | 15 | 370 | 103 | 121 | 89.65 |  |
| Percent Pasture |  | 38 | 100 | 88 | 83 | 19.04 |
| Sales with Pine Timber as Primary Enterprise | 43 |  |  |  |  |  |
| Price Per Acre (dollars) | 150 | 1,617 | 550 | 679 | 392.82 |  |
| Size (acres) |  | 10 | 331 | 48 | 68 | 65.11 |
| Percent Timber |  |  | 100 | 100 | 99 | 7.81 |

Table 6. Mean and Median Land Values and Other Selected Characteristics, Northeast Area, 1994 Louisiana Rural Land Market

| Selected Land Tract <br> Number of <br> Sales Reported | Minimum | Maximum | Median | Mean | Standard <br> Deviation |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Characteristics |  |  |  |  |  |

Over half ( 57 percent) of the sales reported in the Northeast Area indicated cotton as the primary enterprise. Cotton tracts reported the highest median (\$650) and mean (\$698) price per acre. The standard deviation for cotton tracts was $\$ 217.68$, implying that approximately 68 percent of reported sales are expected to fall within the range of $\$ 480$ to $\$ 916$ per acre. These tracts ranged in size from 17 acres to 2,412 acres, with a median of 164 acres and mean of 279 acres. Base acres in the government program ranged from zero to 1,142 acres. The median ( 66 acres) and mean ( 122 acres) base acreage were well below total median and mean acreage of cotton in the area.

Another 21 percent of the reported sales indicated soybeans as the primary enterprise. The largest single tract in the Northeast Area ( 5,889 acres) indicated soybeans as the primary enterprise. However, the median size of soybean tracts was 119 acres, with a mean size of 423 acres.

## Southwest Area

The Southwest Area includes six parishes (Acadia, Allen, Calcasieu, Cameron, Jefferson Davis, and Vermilion) located near the Gulf of Mexico in the southwest corner of the state. Table 7 summarizes selected characteristics of the 67 reported sales in the Southwest Area. Per acre values ranged from $\$ 300$ to $\$ 4,285$, with a median of $\$ 780$ and a mean of $\$ 876$. Tract size ranged from 10 acres to 735 acres. Results of the survey indicate that tracts in the Southwest Area were typically larger in size when compared to other areas of the study. The median tract size was 140 acres, with a mean tract size of 199 acres.

Sixty-six percent of the reported sales in the Southwest Area indicated rice as the primary enterprise. Median ( $\$ 759$ ) and mean ( $\$ 775$ ) price per acre were very close. The standard deviation ( $\$ 157.37$ ) was also relatively small, implying that 68 percent of the reported rice tracts are expected to fall in the range of $\$ 618$ to $\$ 932$ per acre. Tract size ranged from 36 acres to 643 acres, with a median of 164 acres and a mean of 227 acres. The government program base acres ranged from zero to 300 acres, with a median of 65 acres and mean of 84 acres.

## Central Area

The Central Area includes five parishes (Avoyelles, Evangeline, Lafayette, Pointe Coupee, and St. Landry). The survey reported 126 sales in the area (Table 8 ), representing 13 percent of the survey sales. Per acre values ranged from $\$ 157$ to $\$ 3,817$, with a median of $\$ 739$ and a mean of $\$ 975$. Tract size varied from a minimum of 10 acres to a maximum of 5,555 acres. The median tract size was 84 acres, with a mean tract size of 223 acres.

Only a limited number of the 126 sales clearly indicated a primary crop. Rice ( 21 sales) and soybeans ( 17 sales) were the most frequently indicated crops. Rice tracts ranged in value from $\$ 222$ per acre to $\$ 1,834$ per acre, with a median ( $\$ 679$ ) and mean ( $\$ 704$ ) that were very similar. The standard deviation was $\$ 337.14$, implying that 68 percent of the reported rice tracts are expected to fall in the range of $\$ 367$ to $\$ 1,041$ per acre. Tract size varied from 29 acres to 5,555 acres, with a median of 137 acres and a mean of 651 acres. The government program base acres were much smaller, ranging from zero to 200 acres, with a zero median and 24 acre mean.
Table 7. Mean and Median Land Values and Other Selected Characteristics, Southwest Area, 1994 Louisiana Rural Land Market

| Selected Land Tract <br> Characteristics | Number of <br> Sales Reported | Minimum | Maximum | Median | Mean | Standard <br> Deviation |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Southwest Area | 67 |  |  |  |  |  |
| Price Per Acre (dollars) |  | 300 | 4,285 | 780 | 876 | 526.46 |
| Size (acres) | 10 | 735 | 140 | 199 | 189.24 |  |
| Percent Cropland |  | 0 | 100 | 90 | 66 | 41.81 |
| Percent Pasture | 0 | 100 | 0 | 12 | 29.79 |  |
| Percent Timber |  | 0 | 10 | 0 | 9 | 28.05 |
| Sales with Rice as Primary Enterprise | 44 |  |  |  |  |  |
| Price Per Acre (dollars) |  | 456 | 1,155 | 759 | 775 | 157.37 |
| Size (acres) | 36 | 643 | 164 | 227 | 177.23 |  |
| Percent Cropland |  | 28 | 100 | 94 | 90 | 12.12 |
| Government Program Base Acres | 0 | 300 | 65 | 84 | 69.89 |  |
| Percent Pasture | 95 | 100 | 100 | 99 | 2.50 |  |

Table 8. Mean and Median Land Values and Other Selected Characteristics, Central Area, 1994 Louisiana Rural Land Market

| $\quad$Selected Land Tract | Number or <br> Sales Reported | Minimum | Maximum | Median | Mean | Standard <br> Deviation |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Characteristics |  |  |  |  |  |  |

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Table 8. Mean and Median Land Values and Other Selected Characteristics, Central Area, Continued.

| Number of <br> Tract Characteristics | Nand <br> Sales Reported | Minimum | Maximum | Median | Standard <br> Deviation |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Sales with Rice as Primary Enterprise | 21 |  |  |  |  |
| Price Per Acre (dollars) | 222 | 1,834 | 679 | 704 | 337.14 |
| Size (acres) | 29 | 5,555 | 137 | 651 | $1,260.68$ |
| Percent Cropland | 65 | 100 | 90 | 88 | 11.61 |
| Government Program Base Acres | 0 | 200 | 0 | 24 | 46.57 |
| Sales with Pasture as Primary Enterprise | 7 |  |  |  |  |
| Price Per Acre (dollars) | 310 | 2,099 | 1,000 | 992 | 577.54 |
| Size (acres) | 20 | 110 | 55 | 60 | 31.44 |
| Percent Pasture | 90 | 100 | 96 | 96 | 4.48 |

Soybean tracts ranged in value from $\$ 350$ to $\$ 2,941$ per acre, with a median of $\$ 600$ and a mean of $\$ 877$. The standard deviation ( $\$ 679.12$ ) was extremely large. Tract size ranged from 13 acres to 304 acres, with a median of 70 acres and a mean of 91 acres.

A limited number of sales reported corn or pastureland as the primary enterprise. The tracts, however, had the highest median and mean price per acre. The median value per acre of corn tracts was $\$ 900$, with a mean of $\$ 907$. The standard deviation of corn was $\$ 141.03$, implying that 68 percent of the reported corn tracts were expected to fall in the range of $\$ 766$ to $\$ 1,048$ per acre. Acreage size was relatively small, ranging from 17 acres to 158 acres, with a median of 65 acres and a mean of 70 acres. Government program base acres were also small, ranging from zero to 30 acres, with a median of zero and mean of eight acres. Pastureland tracts had a median of $\$ 1,000$ per acre and a mean of $\$ 992$ per acre. Acreage on pastureland tracts ranged from 20 acres to 110 acres, with a median of 55 acres and a mean of 60 acres.

## Southeast Area

The Southeast Area includes eight parishes (East Baton Rouge, East Feliciana, Livingston, St. Helena, St. Tammany, Tangipahoa, Washington, and West Feliciana). Table 9 summarizes selected characteristics of reported sales in the Southeast Area. Per acre values ranged from \$475 to $\$ 7,564$, with a median of $\$ 1,966$ and a mean of $\$ 2,298$. Tract size varied from 10 acres to 975 acres. The Southeast Area had the smallest median and mean tract sizes of any area in the study. The median tract size was 54 acres, with a mean tract size of 87 acres. Based on the median and mean values of the percent of cropland, tracts in the area could be characterized as having few cropland acres.

A much smaller number of reported sales indicated the primary enterprise of the tract in the Southeast Area. Pastureland, dairy, and pine timberland were the primary enterprises reported. Per acre values reported for all three enterprises were considerably higher than for similar tracts in other areas of the study, possibly indicating the influence of nonagricultural factors on market value. Tracts with pine timberland as the primary enterprise had the highest median $(\$ 1,457)$ and mean $(\$ 1,550)$ per acre values. The standard deviation $(\$ 561.21)$ implies that 68 percent of the reported pine timberland tracts are expected to fall in the range of $\$ 989$ to $\$ 2,111$ per acre. Median and mean tract sizes for pastureland, dairy, and pine timberland tended to be above that of the total area, while median and mean price per acre were below the area summary.

## Sugar Cane Area

The Sugar Cane Area includes 11 parishes (Ascension, Assumption, Iberia, Iberville, Lafourche, St. James, St. John the Baptist, St. Martin, St. Mary, Terrebonne, and West Baton Rouge) in or adjacent to the Atchafalaya River basin. The survey reported only 41 sales in the area (Table 10). Per acre values ranged from $\$ 384$ to $\$ 6,500$, with a median of $\$ 1,210$ and a mean of $\$ 1,647$. Tract size varied from a minimum of 15 acres to a maximum of 1,796 acres. The median tract size was 63 acres, with a mean tract size of 257 acres.
Table 9. Mean and Median Land Values and Other Selected Characteristics, Southeast Area, 1994 Louisiana Rural Land Market

Table 10. Mean and Median Land Values and Other Selected Characteristics, Sugar Cane Area, 1994 Louisiana Rural

| $\quad$Selected Land Tract <br> Number of <br> Sales Reported | Minimum | Maximum | Median | Mean | Standard <br> Deviation |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Sugar Cane Area | 41 |  |  |  |  |  |
| Price Per Acre (dollars) |  | 384 | 6,500 | 1,210 | 1,647 | $1,065.54$ |
| Size (acres) | 15 | 1,796 | 63 | 257 | 492.57 |  |
| Percent Cropland | 0 | 100 | 44 | 47 | 44.75 |  |
| Percent Pasture |  | 0 | 100 | 0 | 20 | 37.48 |
| Percent Timber | 0 | 85 | 0 | 5 | 16.30 |  |
| Sales with Sugar Cane as Primary Enterprise | 20 |  |  |  | 1,205 | 1,501 |

Twenty of the reported sales in the Sugar Cane Area indicated sugar cane as the primary enterprise. Sugar cane tracts were similar to statistics reported for the area, with a median of $\$ 1,205$ per acre and a mean of $\$ 1,501$ per acre. The standard deviation was $\$ 595.32$, implying that 68 percent of the reported sugar cane tracts are expected to fall in the range of $\$ 906$ to $\$ 2,096$ per acre. Tract size ranged from 17 acres to 1,796 acres. While the median ( 69 acres) was close to that of the area as a whole, the mean of 414 acres was greater than that of the area.

A small number of tracts with pastureland as the primary enterprise were also reported. The median of these tracts was $\$ 844$ per acre, with a mean of $\$ 887$ per acre. Both values were below that of the area as a whole.

## Area Summary

Median prices per acre of rural land sales reported are summarized in Figure 5 for eight of the nine agricultural production areas in the state. Area 9 was not included in the current study due to limited data on rural land values. Median values range from $\$ 550$ per acre in the Red River Area to $\$ 1,966$ in the Southeast Area. Figure 5 illustrates the variation in rural land values across the state and the influence of a variety of factors on local markets. Examples of factors influencing market value include soil productivity, climatic conditions, proximity to urban areas, and supply and demand of suitable properties in respective areas.

## RURAL REAL ESTATE VALUES BY PARISH

Rural land values by parish are reported in Table 11. Not all parishes are reported because of limited observations from the Louisiana Rural Land Market Survey. Mean per acre prices presented in Table 11 range from $\$ 411$ for Red River parish to $\$ 3,713$ for Livingston Parish. This wide range in prices, along with relatively large respective standard deviations, indicates substantial variability in land values across the state. This suggests a number of other factors including location, productivity of soils, size, investment, and economic development influence land values.

Readers are encouraged to interpret and use estimates presented in Table 11 with caution because of a limited number of observations in some areas, and variation in values for other areas. The number of reported sales range from 3 for several parishes to 170 for Vernon Parish. For example, in Livingston Parish the range of per acre real estate values is estimated vary from $\$ 1,529$ to $\$ 5,000$. Similarly, the standard deviation for Avoyelles Parish indicates that approximately 68 percent of reported land sales are expected to fall in the price range of $\$ 371$ to $\$ 959$ per acre (the mean plus and minus one standard deviation).

## SUBJECTIVE ESTIMATES OF CROP SHARE/LAND RENTAL MARKETS

The second section of the Louisiana Rural Land Market Survey asked participants to provide estimates of crop cash rent and share rent arrangements in their respective areas. Eightynine of the 334 participating respondents provided typical rental arrangement information. The rental agreement may also include sharing of cost of production expenses. The current survey did not

Table 11. Selected Tract Sale Statistics by Parish, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994

Table 11. Selected Tract Sale Statistics by Parish, Continued.

|  | Number of <br> Sales <br> Reported | Median | Mean | Minimum | Maximum | Median | Mean | Standard <br> Deviation |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Parish | 24 | 115 | 207 | 215 | 800 | 595 | 575 | 132.16 |
| Franklin | 19 | 80 | 79 | 230 | 1,617 | 730 | 788 | 435.29 |
| Grant | 7 | 90 | 142 | 1,000 | 2,000 | 1,200 | 1,290 | 342.37 |
| Iberia | 3 | 22 | 86 | 991 | 2,493 | 2,490 | 1,991 | 866.32 |
| Iberville | 33 | 198 | 286 | 450 | 1,155 | 700 | 721 | 144.83 |
| Jefferson Davis | 15 | 14 | 26 | 588 | 3,817 | 2,250 | 2,392 | 890.27 |
| Lafayette | 11 | 45 | 41 | 1,429 | 3,840 | 2,215 | 2,198 | 689.15 |
| Lafourche | 3 | 30 | 37 | 1,529 | 5,000 | 4,609 | 3,713 | $1,900.95$ |
| Livingston | 11 | 142 | 195 | 246 | 1,286 | 625 | 697 | 294.80 |
| Madison | 12 | 447 | 637 | 338 | 1,059 | 550 | 663 | 286.42 |
| Morehouse | 23 | 107 | 285 | 190 | 1,859 | 505 | 669 | 469.57 |
| Natchitoches | 35 | 46 | 88 | 250 | 9,351 | 750 | 1,219 | $1,556.71$ |
| Rapides | 11 | 357 | 457 | 229 | 646 | 392 | 411 | 123.11 |
| Red River | 10 | 90 | 108 | 425 | 1,400 | 836 | 857 | 334.25 |
| Richland | 10 | 60 | 61 | 254 | 5,000 | 689 | 1,366 | $1,522.14$ |
| Sabine | 40 | 117 | 360 | 222 | 2,206 | 718 | 870 | 487.28 |
| Saint Landry |  |  |  |  |  |  |  |  |

Table 11. Selected Tract Sale Statistics by Parish, Continued.

| Parish | Number of Sales Reported | Tract Size (acres) |  | Price Per Acre (dollars) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Median | Mean | Minimum | Maximum | Median | Mean | Standard <br> Deviation |
| Saint Martin | 7 | 50 | 62 | 800 | 2,066 | 1,210 | 1,254 | 447.85 |
| Saint Tammany | 33 | 21 | 65 | 1,006 | 7,564 | 3,000 | 3,138 | 1,401.74 |
| Tangipahoa | 18 | 70 | 80 | 475 | 2,531 | 1,022 | 1,161 | 555.47 |
| Tensas | 12 | 405 | 410 | 325 | 876 | 655 | 664 | 152.25 |
| Terrebonne | 3 | 166 | 151 | 384 | 687 | 656 | 576 | 166.71 |
| Union | 22 | 43 | 73 | 325 | 1,500 | 610 | 696 | 301.67 |
| Vermilion | 5 | 36 | 42 | 950 | 4,285 | 1,000 | 1,731 | 1,444.32 |
| Vernon | 170 | 32 | 55 | 151 | 12,500 | 760 | 1,001 | 1,154.63 |
| Washington | 3 | 15 | 55 | 978 | 1,550 | 1,500 | 1,343 | 316.80 |
| Webster | 16 | 50 | 81 | 353 | 2,152 | 800 | 820 | 436.24 |
| West Baton Rouge | 5 | 1,795 | 1,149 | 961 | 2,935 | 1,039 | 1,403 | 857.20 |
| West Carroll | 38 | 103 | 198 | 324 | 1,000 | 543 | 570 | 166.42 |
| West Feliciana | 14 | 146 | 184 | 843 | 4,062 | 2,045 | 2,223 | 1027.90 |
| Winn | 18 | 76 | 84 | 150 | 1,574 | 312 | 495 | 401.41 |

collect information on these arrangements. While the survey respondents are professionals familiar with local land market conditions, the data presented in this section is subjective in nature. Care should be used in relying solely on the information presented here in making market transaction decisions.

## Cash Rental Arrangements

Respondents provided estimates of typical per acre cash rental arrangements in their area for ten different income-generating activities (cotton, soybeans, corn, wheat, rice, grain sorghum, sugar cane, sweet potato, pastureland, and hunting/recreation). Results of the survey are reported in Table 12, indicating the number of survey respondents, mean, minimum, and maximum cash rent per acre, and the standard deviation by crop and production area. For any specific crop/activity, no information was reported for areas with fewer than three respondents.

Estimates of cash rental arrangements for cotton were concentrated in three production areas (Red River, Northeast, and Central). The Northeast Area had the largest number of respondents (16), with cash rent ranging from $\$ 40$ to $\$ 100$ per acre. The Central Area had a much smaller range of cotton cash rents, from $\$ 75$ to $\$ 85$ per acre. The smaller standard deviation (\$4.47) indicates less variability around the mean than for other production areas. Mean cash rent values in the three areas were very similar, ranging from $\$ 71$ per acre in the Red River Area to $\$ 79$ per acre in the Northeast Area.

Thirty-eight respondents provided estimates of soybean cash rents, concentrated primarily in the Red River, Northeast, Southwest, and Central Areas. Soybean cash rent was as low as $\$ 15$ per acre to as high as $\$ 60$ per acre across the state. The Northeast Area had the largest number of respondents (15), ranging from $\$ 20$ to $\$ 50$ per acre, and the largest mean ( $\$ 35$ ) among the areas. No other area averaged above $\$ 30$ per acre.

Corn cash rent was estimated by 28 respondents in the state, primarily in the Red River, Northeast, and Central Areas. Cash rents across the state ranged from $\$ 30$ to $\$ 85$ per acre, with a mean of $\$ 45$ per acre. The Red River Area had an identical mean value, but a greater standard deviation (\$20.98). The Northeast Area had the largest number of respondents (10) and the largest mean cash rent (\$49). Overall, the reported mean cash rents in the three areas were extremely close, ranging from $\$ 45$ to $\$ 49$ per acre.

Wheat cash rent was estimated by 20 respondents in the state, the majority representing the Red River, Northeast, and Central Areas. Cash rents ranged from $\$ 10$ to $\$ 60$ per acre, with a mean of $\$ 31$ per acre. The Red River Area had the smallest range ( $\$ 10$ to $\$ 35$ per acre) and a mean of only $\$ 22$ per acre. The Northeast and Central Areas had similar ranges and means of $\$ 34$ and $\$ 33$ per acre, respectively.

Eleven respondents reported estimates of cash rent on rice. Cash rent in the state ranged from $\$ 50$ to $\$ 125$ per acre, with a mean of $\$ 88$ per acre. The two major rice regions of the state, the Northeast and Southwest Areas, accounted for most responses. The Northeast Area reported a higher minimum cash rent ( $\$ 85$ per acre) while the Southwest reported the highest maximum cash

Table 12. Estimates of Cash Rental Arrangements, by Activity and Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

| Area | Number of Survey Respondents | Cash Rent Per Acre (dollars) |  |  | Standard Deviation |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Minimum | Maximum | Mean |  |
| Cotton |  |  |  |  |  |
| State | 33 | \$ 40 | \$ 100 | \$ 75 | \$ 18.35 |
| Red River Area | 7 | 45 | 100 | 71 | 23.22 |
| Northeast Area | 16 | 40 | 100 | 79 | 16.85 |
| Central Area | 5 | 75 | 85 | 78 | 4.47 |
| Soybean |  |  |  |  |  |
| State | 38 | 15 | 60 | 32 | 9.95 |
| Red River Area | 6 | 15 | 35 | 26 | 7.36 |
| Northeast Area | 15 | 20 | 50 | 35 | 8.55 |
| Southwest Area | 3 | 25 | 30 | 27 | 2.89 |
| Central Area | 8 | 20 | 60 | 30 | 13.36 |
| Corn |  |  |  |  |  |
| State | 28 | \$ 30 | \$ 85 | \$ 45 | \$ 13.30 |
| Red River Area | 6 | 30 | 85 | 45 | 20.98 |
| Northeast Area | 10 | 30 | 75 | 49 | 12.70 |
| Central Area | 6 | 40 | 60 | 47 | 7.53 |
| Wheat |  |  |  |  |  |
| State | 20 | 10 | 60 | 31 | 12.24 |
| Red River Area | 5 | 10 | 35 | 22 | 9.08 |
| Northeast Area | 8 | 25 | 50 | 34 | 10.84 |
| Central Area | 4 | 20 | 60 | 33 | 18.93 |

Table 12. Estimates of Cash Rental Arrangements, Continued.

| Area | Number of Survey Respondents | Cash Rent Per Acre (dollars) |  |  | Standard Deviation |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Minimum | Maximum | Mean |  |
| Rice |  |  |  |  |  |
| State | 11 | \$ 50 | \$ 125 | \$ 88 | \$ 20.90 |
| Northeast Area | 4 | 85 | 100 | 93 | 6.45 |
| Southwest Area | 5 | 50 | 125 | 88 | 30.12 |
| Grain Sorghum |  |  |  |  |  |
| State | 3 | 30 | 40 | 37 | 5.77 |
| Sugar Cane |  |  |  |  |  |
| State | 4 | \$ 50 | \$ 125 | \$ 88 | \$ 32.27 |
| Sugar Cane Area | 3 | 50 | 100 | 75 | 25.00 |
| Sweet Potato |  |  |  |  |  |
| State | 5 | 40 | 100 | 74 | 31.30 |
| Northeast Area | 3 | 90 | 100 | 97 | 5.77 |
| Pasture |  |  |  |  |  |
| State | 41 | \$ 1 | \$ 38 | \$ 14 | \$ 6.57 |
| Red River Area | 6 | 10 | 15 | 11 | 2.04 |
| North Central Area | 3 | 8 | 15 | 11 | 3.61 |
| Northeast Area | 10 | 6 | 25 | 15 | 6.51 |
| Southwest Area | 3 | 10 | 20 | 13 | 5.77 |
| Central Area | 6 | 10 | 15 | 14 | 2.16 |
| Southeast Area | 7 | 1 | 38 | 19 | 11.94 |
| Sugar Cane Area | 4 | 10 | 20 | 15 | 4.08 |

Table 12. Estimates of Cash Rental Arrangements, Continued.

|  | Number of <br> Survey <br> Respondents | Cash Rent Per Acre (dollars) |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Area |  |  |  |  |  |
| Munimum | Maximum | Mean | Standard <br> Deviation |  |  |
| State | 35 | 1 | 25 | 7 | 4.61 |
| Red River Area | 7 | 3 | 10 | 6 | 3.10 |
| Northeast Area | 10 | 5 | 25 | 10 | 5.66 |
| Southwest Area | 3 | 2 | 10 | 7 | 4.62 |
| Central Area | 5 | 1 | 10 | 5 | 3.24 |
| Southeast Area | 5 | 5 | 15 | 10 | 4.16 |

rent ( $\$ 125$ per acre). The Northeast Area had the highest mean (\$93) and the lowest standard deviation (\$6.45).

Only three respondents provided estimates of cash rent for grain sorghum. These results indicate that per acre cash rents throughout the state range from $\$ 30$ to $\$ 40$, with a mean of $\$ 37$.

Sugar cane respondents were primarily limited to the Sugar Cane Area. The reported estimates of cash rent ranged from $\$ 50$ to $\$ 125$ per acre across the state, with a mean of $\$ 88$. The standard deviations for the state and the Sugar Area were relatively high, representing about onethird of the mean cash rent in each case.

Five respondents offered estimates of per acre cash rent of sweet potatoes in the state. The state estimate ranged from $\$ 40$ to $\$ 100$ per acre, with a mean of $\$ 74$ per acre. Three of the respondents were located in the Northeast Area and estimated cash rent of $\$ 90$ to $\$ 100$ per acre. Mean cash rent was $\$ 97$ per acre in the Northeast Area, with an extremely low standard deviation of \$5.77.

Forty-one respondents provided estimates of cash rent on pastureland across the state, with the range from as low as $\$ 1$ per acre up to $\$ 38$ per acre. All but one of the production areas (Western Area) had at least three respondents participating. The mean for the state was $\$ 14$ per acre. The means of the production areas ranged from $\$ 11$ per acre in the Red River and North Central Areas to $\$ 19$ in the Southeast Area. The Southeast Area also reported the lowest minimum (\$1 per acre) and highest maximum ( $\$ 38$ per acre) cash rents in the state.

Hunting and other recreation activities have become an alternative use of rural land placed in conservation programs, in commercial timberland, or land otherwise unsuitable for traditional cropping activities. Thirty-five respondents representing five production areas (Red River, Northeast, Southwest, Central, and Southeast) provided estimates of per acre cash rent for hunting/recreation use. The per acre rental rate in the state ranged from $\$ 1$ to $\$ 25$, with a mean of $\$ 7$. The highest maximum cash rent ( $\$ 25$ per acre) was reported in the Northeast Area. The highest per acre mean cash rents (\$10) were reported for the Northeast and Southeast Areas of the state. The Central Area reported the lowest mean cash rent (\$5 per acre). Standard deviations for the state and agricultural production areas reported in Table 12 indicate substantial variability in rental rates for hunting/recreation land.

## Share Rental Arrangements

Respondents also provided estimates of typical share rental arrangements in their area for seven different crops (cotton, soybeans, corn, wheat, rice, grain sorghum, and sugar cane). Results of the survey are reported in Table 13, indicating the number of survey respondents, and type of share arrangement. No information was reported for any crop or production area with fewer than three respondents. Three share arrangements were reported by the survey respondents. Most arrangements were on the basis of the landlord receiving either one-quarter ( 25 percent) or one-fifth ( 20 percent) of the crop as the rental payment. A limited number of respondents reported a share arrangement of one-sixth ( 16.67 percent) of the crop. None of the respondents reported sharing of production expenses as a part of rental arrangements.

Table 13. Estimates of Share Rental Arrangements, by Activity and Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

| Area | Number of Survey Respondents | One-Quarter Share | One-Fifth Share | One-Sixth Share |
| :---: | :---: | :---: | :---: | :---: |
| Cotton |  |  |  |  |
| State | 34 | 11 | 23 |  |
| Red River Area | 8 | 2 | 6 |  |
| Northeast Area | 17 | 6 | 11 |  |
| Central Area | 6 | 2 | 4 |  |
| Soybean |  |  |  |  |
| State | 52 | 25 | 24 | 3 |
| Red River Area | 8 | 3 | 4 | 1 |
| Northeast Area | 17 | 13 | 4 |  |
| Southwest Area | 9 | 1 | 6 | 2 |
| Central Area | 9 | 4 | 5 |  |
| Southeast Area | 3 | 1 | 2 |  |
| Sugar Cane Area | 5 | 2 | 3 |  |
| Corn |  |  |  |  |
| State | 30 | 10 | 19 | 1 |
| Red River Area | 7 | 2 | 4 | 1 |
| Northeast Area | 11 | 6 | 5 |  |
| Central Area | 6 | 1 | 5 |  |
| Sugar Cane Area | 3 | 1 | 2 |  |
| Wheat |  |  |  |  |
| State | 24 | 10 | 10 | 4 |
| Red River Area | 5 | 1 | 2 | 2 |
| Northeast Area | 10 | 6 | 4 |  |
| Central Area | 4 | 1 | 2 | 1 |

Table 13. Estimates of Share Rental Arrangements, Continued.

| Area | Number of Survey Respondents | One-Quarter Share | One-Fifth Share | One-Sixth Share |
| :---: | :---: | :---: | :---: | :---: |
| Rice Land |  |  |  |  |
| State | 18 | 2 | 16 |  |
| Northeast Area | 4 | 1 | 3 |  |
| Southwest Area | 9 | 1 | 8 |  |
| Central Area | 4 |  | 4 |  |
| Rice Water |  |  |  |  |
| State | 14 |  | 14 |  |
| Southwest Area | 7 |  | 7 |  |
| Central Area | 4 |  | 4 |  |
| Grain Sorghum |  |  |  |  |
| State | 5 | 4 | 1 |  |
| Northeast Area | 3 | 3 |  |  |
| Sugar Cane |  |  |  |  |
| State | 16 |  | 5 | 11 |
| Sugar Cane Area | 14 |  | 5 | 9 |

Thirty-four respondents indicated share arrangements for cotton across the state, primarily in the Red River, Northeast, and Central Areas. These are the principal cotton producing areas of the state. Twenty-three of the 34 respondents indicated that the one-fifth share arrangement was the most common. This ratio was consistent in all three production areas. No one-sixth share arrangements were reported for cotton.

Soybean share arrangements were reported by 52 respondents in the state. The state response was almost evenly divided between the one-quarter and one-fifth share arrangement ( 25 and 24 responses, respectively). However, a closer study of the production areas indicates that 13 of the 25 responses to the one-quarter share arrangement were in the Northeast Area. In the Southwest Area six of the nine respondents indicated that a one-fifth share arrangement was more typical of that area. Across the state, only three respondents reported a one-sixth share arrangement for soybeans, with two of those responses in the Southwest Area.

Corn share rental arrangements were reported by 30 respondents in the state. Four production areas (Red River, Northeast, Central, and Sugar Cane Areas) are reported in Table 13. Across the state 19 of the 30 respondents indicated a one-fifth share arrangement as typical. Only the Northeast Area indicated greater preference (six of 11 responses) for a one-quarter share arrangement.

Twenty-four respondents provided information on share arrangements for wheat in the state. Respondents were evenly divided between the one-quarter share and one-fifth share arrangement, with 10 respondents each. The four remaining respondents indicated that the one-sixth share was typical, with two of those responses in the Red River Area.

Rice rental arrangements are often divided into a land share and a water share. Land share arrangements were reported in three production areas (Northeast, Southwest, and Central Areas). Sixteen of the 18 respondents in this category reported a one-fifth land share (i.e., the landlord receives 20 percent of the crop as rent). Water share arrangements were reported in only the Southwest and Central Areas. All fourteen responses indicated a one-fifth share arrangement (the waterlord receives 20 percent of the crop as rent). In both cases the landlord/waterlord may also share in paying part of the cost of production. The current survey did not include information on cost sharing arrangements.

Only five respondents in the state provided estimates of typical share arrangements for grain sorghum, with three of those responses in the Northeast Area. A one-quarter share arrangement was the typical method in this limited sample.

Sixteen respondents provided information on sugar cane share arrangements. Fourteen of the sixteen responses were in the Sugar Cane Area. The predominant arrangement was a one-sixth share.

## SUBJECTIVE ESTIMATES OF LAND MARKETS

Survey participants were also asked to provide subjective estimates of land values in their respective agricultural production areas as of June 30, 1994. Respondents were asked to provide
information on four types of rural land (dry cropland, irrigated cropland, pastureland, and timberland) in their area. A summary of the mean responses is provided in Table 14. Production areas with fewer than three respondents were not reported.

Fifty-nine respondents provided information on dry cropland in the state. The mean low value was $\$ 506$ per acre, while the mean high was $\$ 1,067$. Reported estimates ranged from $\$ 250$ to $\$ 2,200$ per acre. Average land value estimates provided by respondents resulted in a mean average dry cropland value of $\$ 761$ per acre, with a standard deviation of $\$ 262.66$. The Sugar Cane Area reported the largest estimated mean values for low, high, and average dry cropland in the state. Estimates are not provided for the Western Area because of limited responses in the area.

Estimates of low, high, and average irrigated land value were reported by 32 respondents in the state. The mean low value was $\$ 623$ per acre, while the mean high was $\$ 1,054$. Reported estimates ranged from $\$ 350$ to $\$ 1,500$ per acre. Respondents indicated a mean average irrigated cropland value of $\$ 822$ per acre. The standard deviation ( $\$ 166.64$ per acre) was the smallest among the four land types. Only four production areas (Red River, Northeast, Southwest, and Central Areas) are reported in Table 14. The Northeast Area reported the largest estimated mean average ( $\$ 870$ per acre), while the Central Area reported the lowest mean average ( $\$ 750$ per acre) for irrigated cropland.

Estimates of pastureland values in the state were provided by 59 respondents. The mean low value was $\$ 480$ per acre, while the mean high was $\$ 1,003$. Reported estimates ranged from $\$ 250$ to $\$ 4,285$ per acre. Respondents indicated a mean average pastureland value of $\$ 706$ per acre, with a standard deviation of $\$ 315.29$. Responses for all eight production areas included in the study are reported in Table 14. The Southeast Area reported the largest estimated mean values for low, high, and average pastureland in the state.

Forty-five respondents reported estimates of timberland value across the state. The mean low value was $\$ 321$ per acre, while the mean high was $\$ 999$. Reported estimates ranged from $\$ 100$ to $\$ 4,500$ per acre. The mean of respondent average estimates for timberland was $\$ 540$ per acre. The standard deviation ( $\$ 346.28$ per acre) was the largest of the four land types. Respondents from the Red River Area reported the smallest estimated mean average price per acre (\$281) for timberland in the state. The Southeast Area had the highest estimated mean average price per acre (\$919). Estimates are not provided for the Western Area because of limited responses in the area.

The survey also asked respondents to indicate any anticipated changes in the average market value of rural land in the next year. Eighty-two of the 334 surveys returned responded to the question. Forty-four of these respondents ( 54 percent) expected no change in average market value in their area. Thirty-eight respondents ( 46 percent) expected average market values to increase, with a mean response of 6 percent. None of the 82 respondents expected values to decrease in the next year.

Respondents were asked to list what specific factors were likely to influence average rural land values over the next 12 months. Only 40 respondents indicated specific factors (Figure 6). As indicated in Figure 6, the most frequent response was commodity prices ( 41 percent). Other factors mentioned were government programs ( 22 percent), urban expansion ( 20 percent), and interest rates (15 percent).
Table 14. Respondent Estimates of Low, High and Average Land Value, by Land Type and Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

| Area | Number of Survey Respondents | Low |  | High |  | Average |  | Range |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Mean | Standard Deviation | Mean | Standard Deviation | Mean | Standard Deviation | Low | High |
| Dry Cropland |  |  |  |  |  |  |  |  |  |
| State | 59 | \$ 506 | \$ 234.40 | \$ 1,067 | \$ 411.09 | \$ 761 | \$ 262.66 | \$ 250 | \$ 2,200 |
| Red River Area | 11 | 336 | 97.70 | 1,048 | 478.60 | 659 | 168.55 | 250 | 2,000 |
| North Central | 3 | 417 | 76.38 | 750 | 50.00 | 663 | 125.00 | 350 | 800 |
| Northeast Area | 16 | 408 | 113.18 | 898 | 184.50 | 642 | 121.25 | 250 | 1,200 |
| Southwest Area | 5 | 565 | 252.24 | 1,005 | 491.30 | 680 | 268.33 | 300 | 1,800 |
| Central Area | 8 | 444 | 67.81 | 975 | 335.94 | 691 | 136.24 | 350 | 1,500 |
| Southeast Area | 3 | 550 | 278.39 | 1,133 | 416.33 | 850 | 350.00 | 250 | 1,600 |
| Sugar Cane Area | 12 | 838 | 220.67 | 1,500 | 377.19 | 1,119 | 253.41 | 500 | 2,200 |
| Irrigated Cropland |  |  |  |  |  |  |  |  |  |
| State | 32 | 623 | 160.26 | 1,054 | 236.07 | 822 | 166.64 | 350 | 1,500 |
| Red River Area | 7 | 529 | 177.62 | 1,050 | 189.30 | 779 | 149.60 | 350 | 1,250 |
| Northeast Area | 13 | 638 | 172.18 | 1,144 | 292.64 | 870 | 212.69 | 450 | 1,500 |
| Southwest Area | 6 | 713 | 133.93 | 975 | 140.53 | 850 | 130.38 | 500 | 1,200 |
| Central Area | 6 | 613 | 97.15 | 942 | 182.80 | 750 | 89.44 | 500 | 1,250 |

Table 14. Respondent Estimates of Low, High and Average Land Value, Continued.

| Area | Number of Survey Respondents | Low |  | High |  | Average |  | Range |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Mean | Standard Deviation | Mean | Standard <br> Deviation | Mean | Standard <br> Deviation | Low | High |
| Pastureland |  |  |  |  |  |  |  |  |  |
| State | 59 | 480 | 211.98 | 1,003 | 630.91 | 706 | 315.29 | 250 | 4,285 |
| Western Area | 4 | 325 | 50.00 | 1,175 | 590.90 | 738 | 314.58 | 300 | 2,000 |
| Red River Area | 11 | 384 | 86.80 | 743 | 156.56 | 559 | 96.35 | 250 | 1,000 |
| North Central | 5 | 430 | 44.72 | 870 | 263.63 | 633 | 87.56 | 400 | 1,200 |
| Northeast Area | 10 | 365 | 100.14 | 645 | 132.18 | 490 | 121.45 | 250 | 900 |
| Southwest Area | 6 | 483 | 246.31 | 1,327 | 1,478.11 | 792 | 540.76 | 300 | 4,285 |
| Central Area | 6 | 392 | 86.12 | 925 | 530.80 | 625 | 144.05 | 300 | 2,000 |
| Southeast Area | 11 | 761 | 213.68 | 1,427 | 586.67 | 1,046 | 369.90 | 500 | 2,500 |
| Sugar Cane Area | 6 | 558 | 257.71 | 1,050 | 372.83 | 758 | 226.75 | 300 | 1,500 |

Table 14. Respondent Estimates of Low, High and Average Land Value, Continued.

| Area | Number of Survey Respondents | Low |  | High |  | Average |  | Range |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Mean | Standard Deviation | Mean | Standard Deviation | Mean | Standard <br> Deviation | Low | High |
| Timberland |  |  |  |  |  |  |  |  |  |
| State | 45 | 321 | 218.51 | 999 | 914.36 | 540 | 346.28 | 100 | 4,500 |
| Red River Area | 10 | 185 | 39.44 | 353 | 47.80 | 281 | 53.22 | 150 | 400 |
| North Central | 5 | 460 | 248.50 | 1,800 | 920.33 | 750 | 234.52 | 200 | 3,000 |
| Northeast Area | 9 | 21 | 60.09 | 556 | 199.13 | 365 | 84.33 | 150 | 1,000 |
| Southwest Area | 4 | 381 | 232.18 | 1,675 | 1,075.10 | 800 | 346.41 | 175 | 3,000 |
| Central Area | 5 | 260 | 114.02 | 810 | 685.93 | 450 | 203.10 | 100 | 2,000 |
| Southeast Area | 8 | 555 | 290.17 | 1,650 | 1,260.39 | 919 | 487.66 | 150 | 4,500 |
| Sugar Cane Area | 3 | 300 | 264.58 | 700 | 360.56 | 450 | 304.14 | 100 | 1,000 |



Figure 6. Respondent Expectation of Factors Likely to Influence Rural Land Values, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

## SUMMARY AND CONCLUSIONS

The general objective of this research was to develop and report rural land market information in Louisiana. A review of literature suggested the need for development of such information and the potential of developing this information through the use of mail survey techniques. Results from this study generally indicate that rural land market information can be successfully developed from mail survey techniques. The response rate for the survey was 48 percent, which resulted in the collection of 948 rural land market sales that occurred between January 1, 1993 to June 30, 1994.

Data collection procedures also provided the basis for collecting rural land market information throughout the state. A Geographical Information System (GIS) analysis of the 948 rural land market sales (Figure 1) indicates that, with the exception of the parishes in the New Orleans metropolitan area, sales were dispersed throughout the state. With regard to future research, this analysis suggests areas where more emphasis may be directed in collecting rural land market sales.

A relatively large amount of variability in per acre rural real estate prices was indicated by a statewide analysis of the data. The mean per acre price of rural real estate was estimated at $\$ 1,037$
with a standard deviation of $1,001.18$. Similarly, rural land values were found to vary when classified by type of primary commodity. Mean per acre prices for cropland were found to vary from $\$ 655$ per acre for sales where soybeans were the primary commodity to $\$ 1,467$ per acre when sugar cane was the primary commodity.

Other information indicated that the most frequent reason for purchasing rural real estate was for expansion of land holdings. The majority of respondents ( 65 percent) did not indicate any other significant influences on prices; however, some respondents did report influences from factors such as residential development, flooding, recreation, urban development, and highways.

Following a format used by Ramsey and Corty, the state was subdivided into nine agricultural production regions (Figure 4), and statistical measures were computed for each of these areas. In general, the results indicated a substantial amount of variability in reported rural real estate values within areas and across areas. For example, 160 sales were reported in the Northeast Area, with a mean of $\$ 634$ per acre and a standard deviation of 229.11 . This standard deviation indicates that approximately 68 percent of the sales are expected to fall in the price interval of $\$ 405$ to $\$ 863$ (the mean plus and minus one standard deviation). Median per acre real estate sale prices (Figure 5) were found to range from $\$ 550$ in the Red River Area to $\$ 1,966$ in the Southeast Area.

Mean per acre values by parish were found to vary from $\$ 411$ in Red River Parish to $\$ 3,713$ in Livingston Parish. It is expected that much of this variability in tract price results from several factors such as location, productivity of soils, size, investment, economic development, and urban influences.

The study requested survey respondents to provide estimates of cash and share rental arrangements in their respective areas. Results indicated cash rental arrangements vary by commodity. On a statewide basis, the mean cash rent was estimated at $\$ 75$ per acre; however, cash rent for field crops was estimated to range from $\$ 32$ per acre for soybeans to $\$ 88$ per acre for rice. Similar variability was exhibited for share rental arrangements. In this case, the most frequent share rental arrangement across most field crops was either a one-quarter or one-fifth share.

Respondents were also requested to provide subjective estimates of different types of land in their respective areas. In this analysis, the mean per acre value for dry cropland from 59 respondents was estimated at $\$ 761$ per acre. These mean estimates for dry cropland ranged from $\$ 659$ per acre in the Red River Area to $\$ 1,119$ per acre in the Sugar Cane Area. For irrigated cropland, the mean of 32 respondents statewide was estimated at $\$ 822$ per acre. In general, subjective estimates of value were found to be consistent with the results from the reported rural real estate sales.

This study provides an initial data base for future land value studies. Trends in rural real estate values may be estimated when estimates from this research are combined with estimates developed over time. Substantial variation in rural real estate values across the state, areas, and commodities suggests the need for additional research aimed at measuring the effect of various factors in rural real estate markets.

The authors caution readers to use care in applying estimates from this study. Estimates from the study are intended to contribute to additional sources of information in the appraisal
process and should not be used as the sole source of valuation. Current local market conditions may not be accurately reflected in the results reported here because of limited data in some cases and the complexity of factors influencing values in the local market. Readers are encouraged to thoroughly investigate and analyze current local market conditions as a part of any decision process.

## LITERATURE CITED

Adrian, J.L. and W.E. Hardy. "Rural Land Markets in Alabama," Bulletin 602, Alabama Agricultural Experiment Station, Auburn University, Auburn, Alabama, November 1989.

Brekke, Jon, Hung-Lin Tao and Phillip M. Raup. The Minnesota Rural Real Estate Market in 1992, Economic Report ER 93-5, University of Minnesota, St. Paul, Minnesota, July 1993.

Clifton, Ivery D. and Stan B. Spurlock. "Analysis of Variations in Farm Real Estate Prices over Homogeneous Market Areas in the Southeast," Southern Journal of Agricultural Economics, 15(1983):89-96.

Dillman, Don A. Mail and Telephone Surveys the Total Design Method, John Wiley \& Sons, Inc. New York, 1978.

Johnson, Bruce B. Nebraska Farm Real Estate Market Developments 1992-93, Report No. 170, Department of Agricultural Economics, The Agricultural Research Division, University of Nebraska-Lincoln, June 1993.

Jones, John and Patrick N. Canning. Farm Real Estate, Historical Series Data, 1950-92, Statistical Bulletin Number 855, Economic Research Service, U.S. Department of Agriculture, Washington D.C., May 1993.

Kletke, Darrel D. "Oklahoma Land Values," Oklahoma Current Farm Economics," 66(1993):1120.

North Central Regional Committee on Land Values (NCR-123). "Ongoing Farmland Market Research: A Handbook," Research Publication No. 306, The Agricultural Experiment Station, University of Nebraska-Lincoln, September 1985.

Ramsey, Frank and Floyd Corty. "The Rural Land Market and Rural Real Estate Values in Louisiana," 1974. D.A.E. Research Report No. 504, Department of Agricultural Economics and Agribusiness, Louisiana Agricultural Experiment Station, LSU Agricultural Center, May 1976.

Spurlock, S.R., S.K. Misra, and L.A. Benoist. "An Analysis of Agricultural Real Estate Values in Mississippi," Technical Bulletin 159, Mississippi Agricultural and Forestry Experiment Station, Mississippi State, Mississippi, October 1988.

Suter, Robert C. The Appraisal of Farm Real Estate, The Interstate Printers \& Publishers, Inc., Danville, Illinois, 1980.
U.S. Department of Agriculture. Agricultural Resources, Agricultural Land Markets, Situation and Outlook Report, AR-31, Economic Research Service, Washington D.C., June 1993.

Vandeveer, L.R. and S.A. Henning. "How Valuable Is Crop Base Acreage in the Rural Land Market?" Louisiana Agriculture, 33:1(Fall 1989):15-16.

Vanvig, Andrew and John P. Hewlett. "Wyoming Farm and Ranch Land Market: 1988-90," Research Journal 210, Agricultural Experiment Station, University of Wyoming, Laramie, Wyoming, October 1990.

Vollink, William J. "Analysis of Factors Related to Per Acre Prices of Bare Land: North Carolina 1975-1976," Southern Journal of Agricultural Economics, 10(1978):143-50.


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